

Name: _____ Date: _____

A2 CC1: Domain Algebraically

Warm Up:

- 1) What situations do we have restrictions on the values that x can be?

II. Find the **domain** of each

1. $y = \frac{1}{x-3}$

2. $y = \frac{5}{x^2-4}$

3. $y = \frac{1}{x+9}$

4. $y = \frac{x+1}{x^2-5x-24}$

5. $y = \sqrt{x-5}$

6. $y = \frac{5}{\sqrt{x-3}}$

7. $y = \sqrt{x+7}$

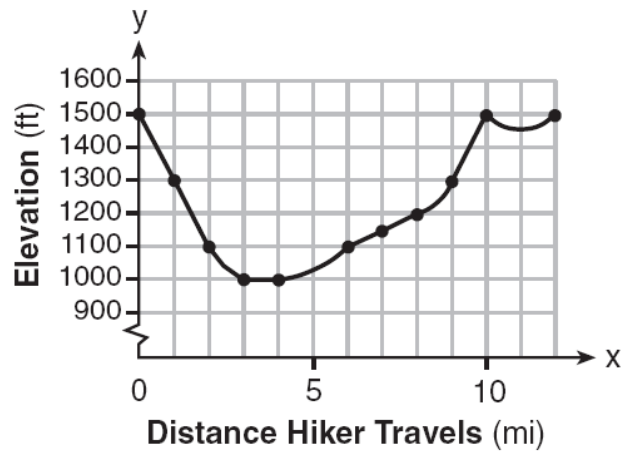
8. $y = \frac{5}{\sqrt{x+9}}$

9. $y = \sqrt{x-11}$

10. $y = \frac{5}{\sqrt{2x+5}}$

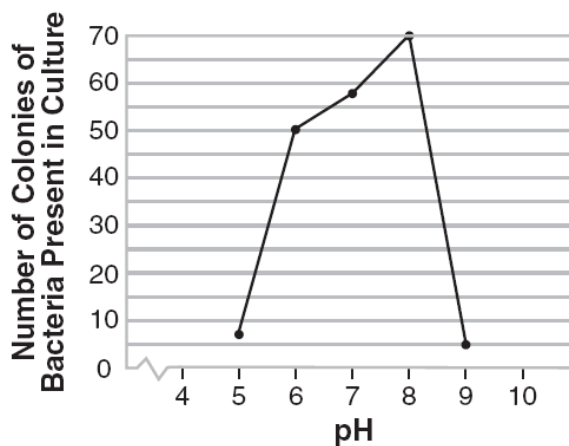
III.

- 1) The accompanying graph shows the elevation of a certain region in New York State as a hiker travels along a trail.



What is the domain of this function?

- (1) $1,000 \leq x \leq 1,500$ (3) $0 \leq x \leq 12$
 (2) $1,000 \leq y \leq 1,500$ (4) $0 \leq y \leq 12$
- 2) The accompanying graph illustrates the presence of a certain strain of bacteria at various pH levels.



What is the range of this set of data?

- (1) $5 \leq x \leq 9$ (3) $0 \leq y \leq 70$
 (2) $5 \leq x \leq 70$ (4) $5 \leq y \leq 70$

IV. More practice

Find the domain of each

1. $y = \frac{1}{x-55}$

2. $y = \frac{5}{x^2-9}$

3. $y = \frac{134}{16-x}$

4. $y = \frac{9}{x^2-81}$

5. $y = \frac{5}{x^2+2x-24}$

6. $y = \frac{x}{x^2+10x+25}$

7. $y = \frac{56x-42}{x^2+36}$